

WHAT IS CLAIMED:

1. A navigational system for sight impaired users comprising:
At least one transceiving handset with at least one button;
A computer that receives signals from the at least one handheld device by means of a wireless data network; and
At least one audio beacon controlled by the computer by means of a data network that emits a sound as a result of a user actuating a button on the handset.
2. The system of Claim 1 where the emitted sound is stored in the audio beacon.
3. The system of Claim 1 where the selection of the audio beacon that emits the sound is determined by the user interaction with the computer using the handset.
4. The system of Claim 1 where the audio beacon that emits the sound is the beacon at one location among a sequence of locations determined by the computer to be a route to a destination beacon.
5. The system of Claim 1 where the audible volume of the emitted sound is adjustable so that it is adjusted upward when the ambient noise surrounding the beacon increases from a nominal level or adjusted downward when the ambient noise decreases from the nominal level.
6. The system of Claim 1 where the audio beacon does not emit a sound at the request of a second user when it is in the process of emitting a sound at the request of a first user.
7. The system of Claim 1 where the beacon emits a sound requested by a second user after a sound requested by a first user is completed when the request by the second user is received while the sound of the first user is being emitted.

8. The system of Claim 1 where the computer causes a sequence of audio beacons to emit a sound and stores in computer memory an index representing the identity of the beacon that emitted a sound immediately prior to the user actuating the handset and before the next beacon in the sequence has emitted the sound.

9. The system of Claim 1 further comprising at least one radio frequency identification device with a data network connection with the computer.

10. The system of Claim 1 further comprising:
an electromagnetic detector that detects the user's presence in proximity to the detector;
a data network that connects the detector to the computer.

11. The system of Claim 1 where the audio beacon further comprises a DTMF activated relay.

12. The system of Claim 1 where the handheld device is either a cellular telephone or a handheld personal computer.

13. The system of Claim 1 where the audio beacon further comprises a digital data memory device where at least one sound is stored as digital data.

15. The system of Claim 1 further comprising a data output connected to the audio beacon that causes a device connected to such output to perform a function referenced by commands encoded as data output by the beacon.

16. The system of Claim 1 where instead of actuation by pressing a button, the handheld device actuation is accomplished by voice into the microphone.

17. The system of Claim 16 where the sound is emitted when the user voices a command into the microphone.

18. The system of Claim 1 where the handheld device further comprises a voice recognition system.

19. The system of Claim 1 where the handheld device further comprises a text to speech capability.

20. A method of providing a navigational guide to a person comprising the steps of:

Determining the selected destination of the user;

Receiving a request to produce a cue sound;

Emitting a sound from an audio beacon located in proximity to the desired destination.

21. The method of Claim 20 where the emitting step comprises:

Determining the approximate location of the user;

Determining the next audio beacon among a sequence of audio beacons corresponding to a step route to the selected destination from the approximate location.

Emitting a sound from the next audio beacon.

22. The system of Claim 20 or 21 where the handheld device outputs a verbal description of at least one aspect regarding the route to the emitting beacon.

23. The system of Claim 1 further comprising a data memory located in the computer wherein the shortest usable route between one pair of audio beacons is stored in the form of a sequence of indices corresponding to the sequence of audio beacons that lie closest to the shortest path between the pair of audio beacons.

24. The system of Claim 1 where the computer is located in a central location and controls audio beacons in one or more remote locations.

25. The system according to Claim 1 where the audio beacon is located in close proximity to the pedestrian entrance to a train, a bus, an escalator, an elevator, a hallway, a stairwell, a pedestrian line defined by a crowd control device, the curbside of a roadway crosswalk, the entryway to a library stack.

26. The system of Claim 1 where the approximate locations of the audio beacons are stored in a data memory accessed by the computer.27. The

method of Claim 20 where the determining step comprises the operation of an interactive menu where choices are presented as audio output through the handset and selections by the user are made either by pressing the handset key pad or by verbal commands input into the handset microphone.

28. The method of Claim 27 where the choices include selection by the user of at least one of a airplane flight, bus line, bus line destination, train line, train line destination, office location, exhibit location, floor level, stairwell, elevator, crowd line, ticket line,